

eGovernment and web services: the eENVplus approach opening new operational solutions

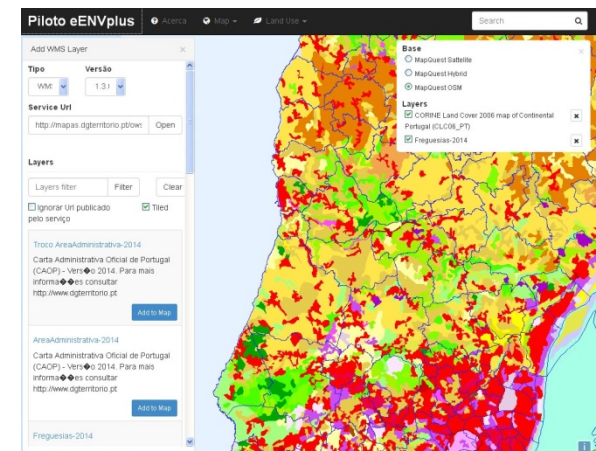
The Portugal pilot example (DGT)

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Main goals of Portuguese pilot:

- Create an application to monitor land cover changes over time
- Develop a prototype integrating web services to build indicators and monitor urban dynamics
- Evaluate fitness for purpose of available datasets to deal with urban evolution

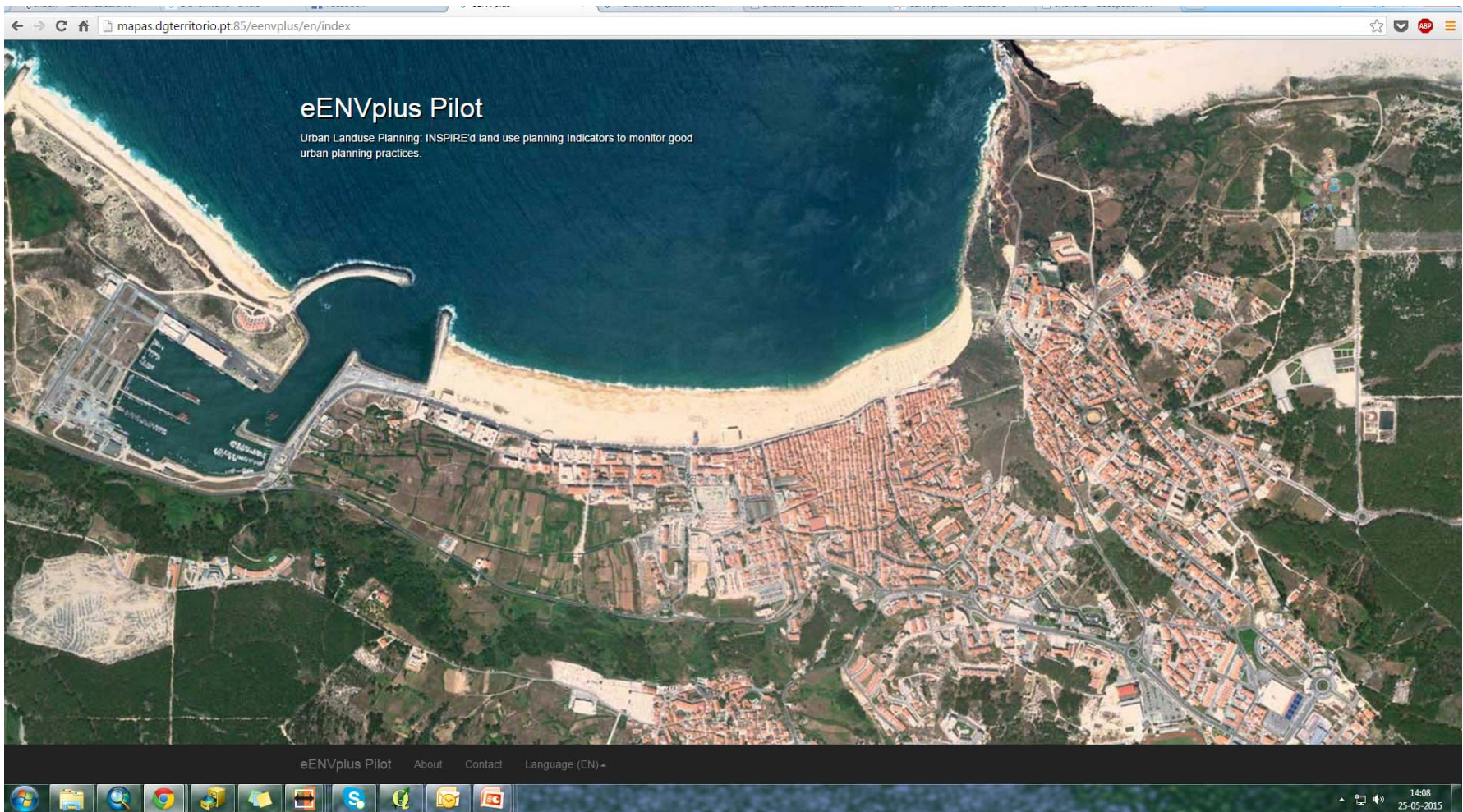


What we made within the project

- Data harmonization (COS, CRUS, Administrative units) and validation
 - Creation and validation of Metadata
- Make the ETS for all the data: COS, CLC, CRUS and CAOP, INSPIRE COMPLIANT, included in the project
 - Creation of indicators to monitor urban dynamics
 - Geoportal (WFS, WMS and WPS)
- Training session to test the geoportal (New University of Lisbon)

<http://mapas.dgterritorio.pt:85/eenvplus/en/index>

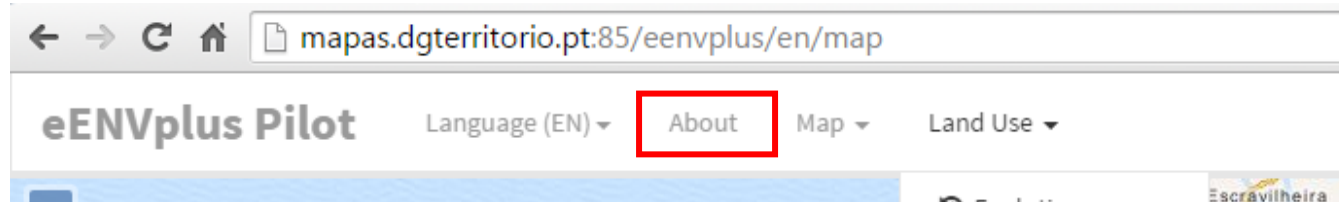
Cover page



Head tabs

The screenshot shows the eENVplus Pilot web application interface. The browser address bar displays the URL: `mapas.dgterritorio.pt:85/eenvplus/en/map`. The main navigation bar includes the title "eENVplus Pilot" and several menu items: "Language (EN)", "About", "Map", and "Land Use". The "Language (EN)" dropdown menu is open, showing three options: "English" (highlighted in blue), "Portuguese", and "Italian". The background of the application shows a map with a blue overlay and a sidebar with "Evolution" and "Statistics" options.

About tab

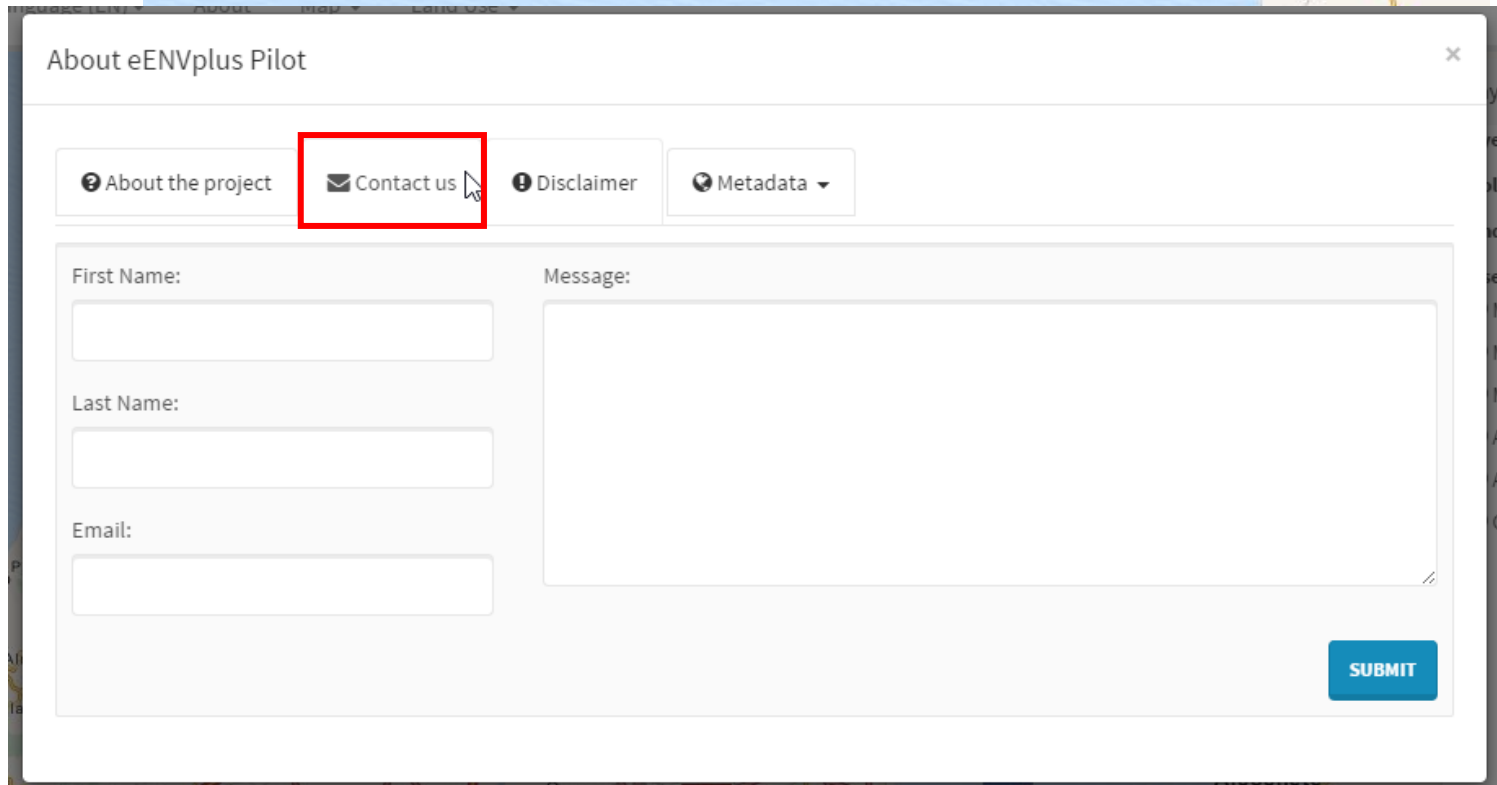
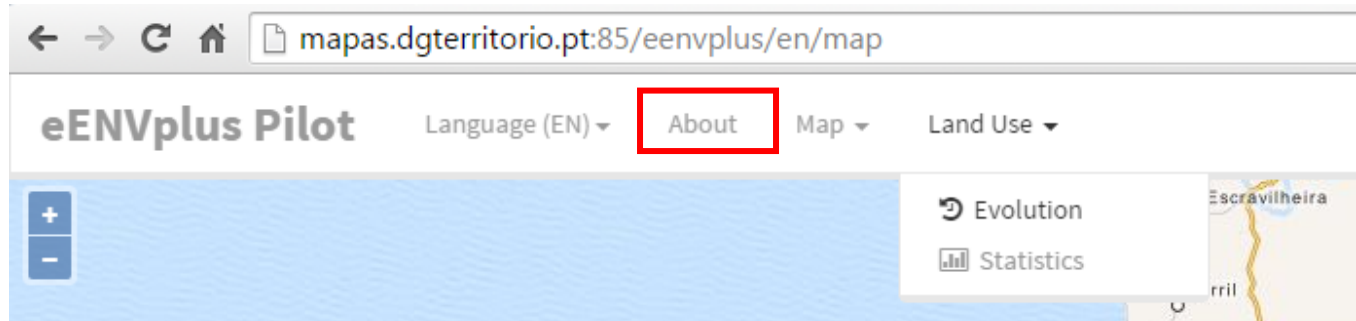


About eENVplus Pilot

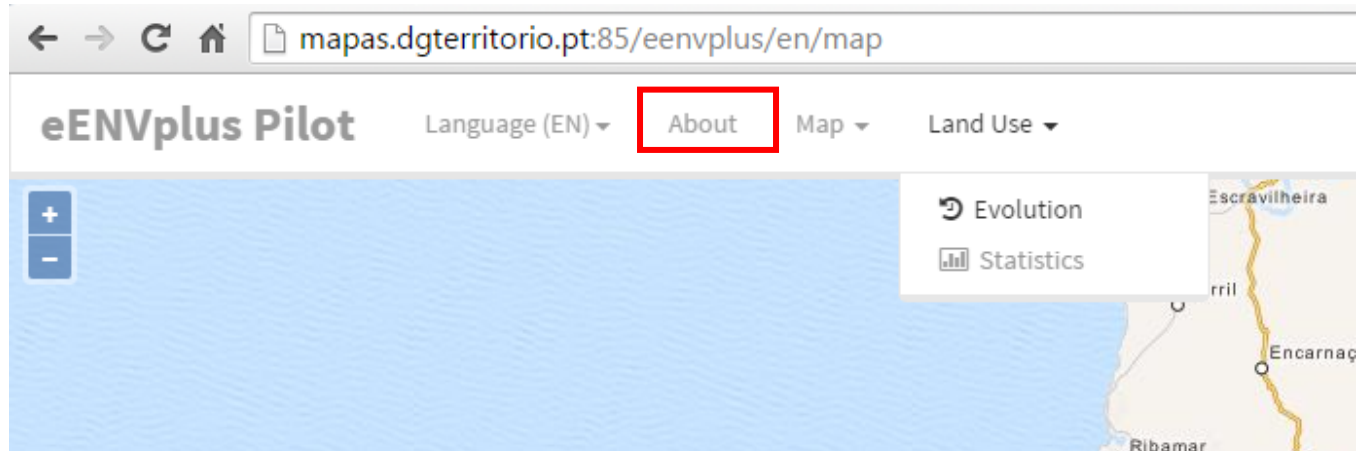
- About the project**
- Contact us
- Disclaimer
- Metadata

Develop a prototype integrating web services implementation related with building environmental quality Indicators namely indicators that help understanding the relation between water and air quality evolution and growing urban and recreation land use near a water catchment. Build environmental quality indicators to monitor water and air quality impact during a time period. The indicators are extracted through a set of GIS web services built to help the user understand water and air quality evolution and its relation with human activities and urban growth. The aim of the pilot is evaluate fitness for purpose of different available official datasets to deal with urban landscape evolution and how these different datasets evaluate the impact in water quality. The data sets cover similar time periods and include soil use legal classification, cartographic based housing evolution datasets and thematic land use maps reporting urban land use.

About tab



About tab



Language (EN) | About | Map | Land Use

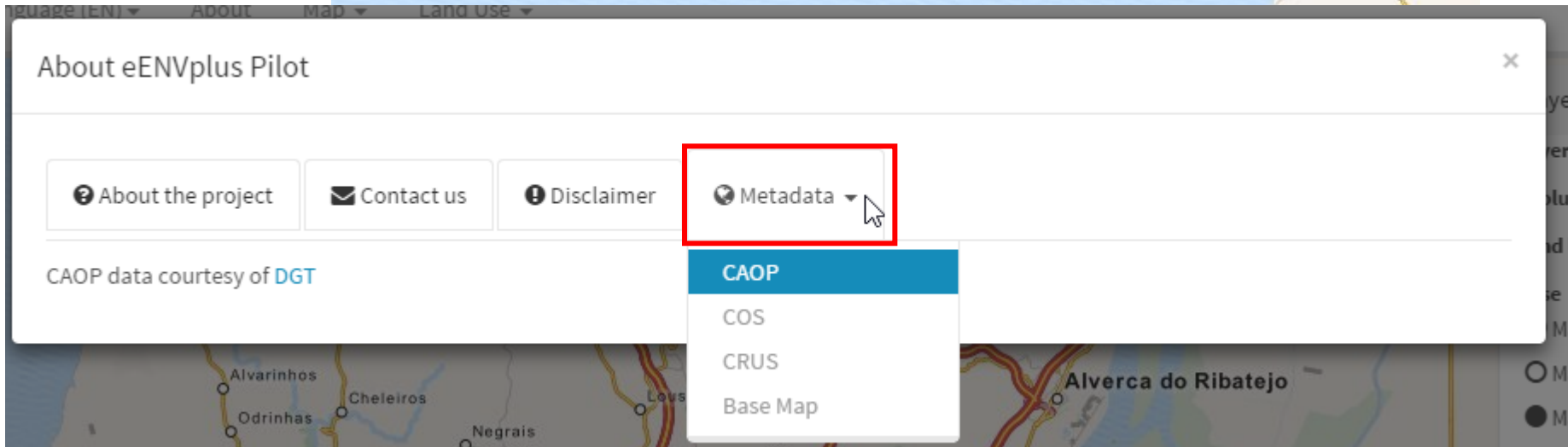
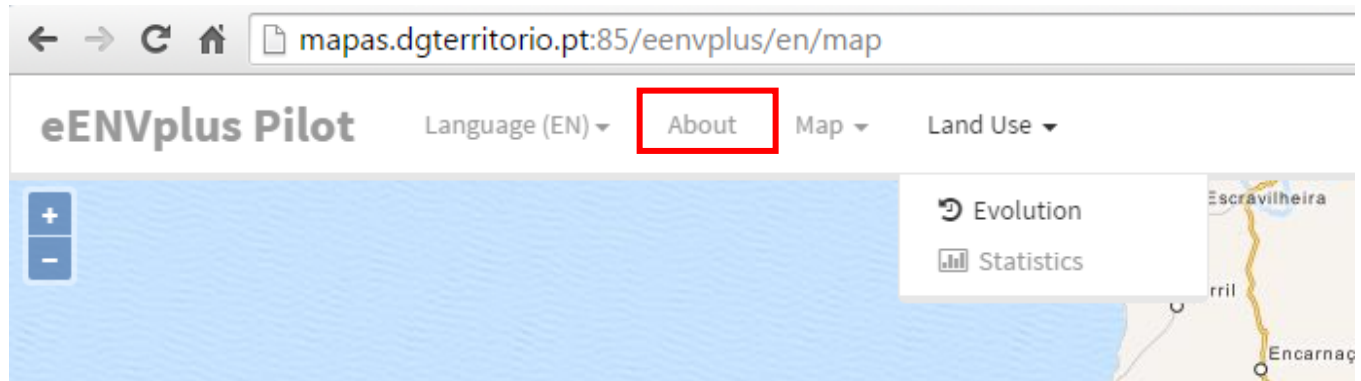
About eENVplus Pilot

[About the project](#) | [Contact us](#) | [Disclaimer](#) | [Metadata](#)

The data provided on this site is for informational and planning purposes only.

Absolutely no accuracy or completeness guarantee is implied or intended. All information on this map is subject to such variations and corrections as might result from a complete title search and/or accurate field survey.

About tab



Map tab



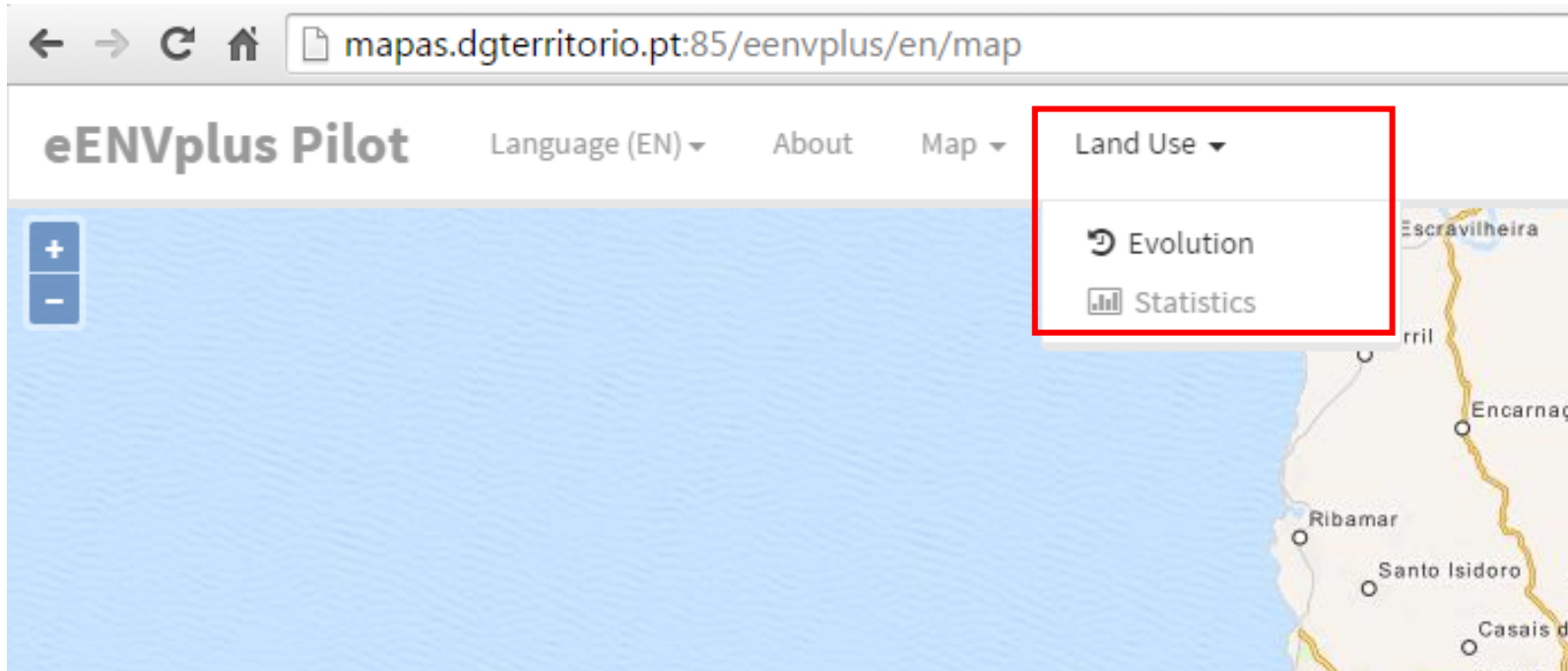
The themes that are added to the viewer come from OGC WMS services.

These themes can be add dynamically, based on user-specified service link

Map tab

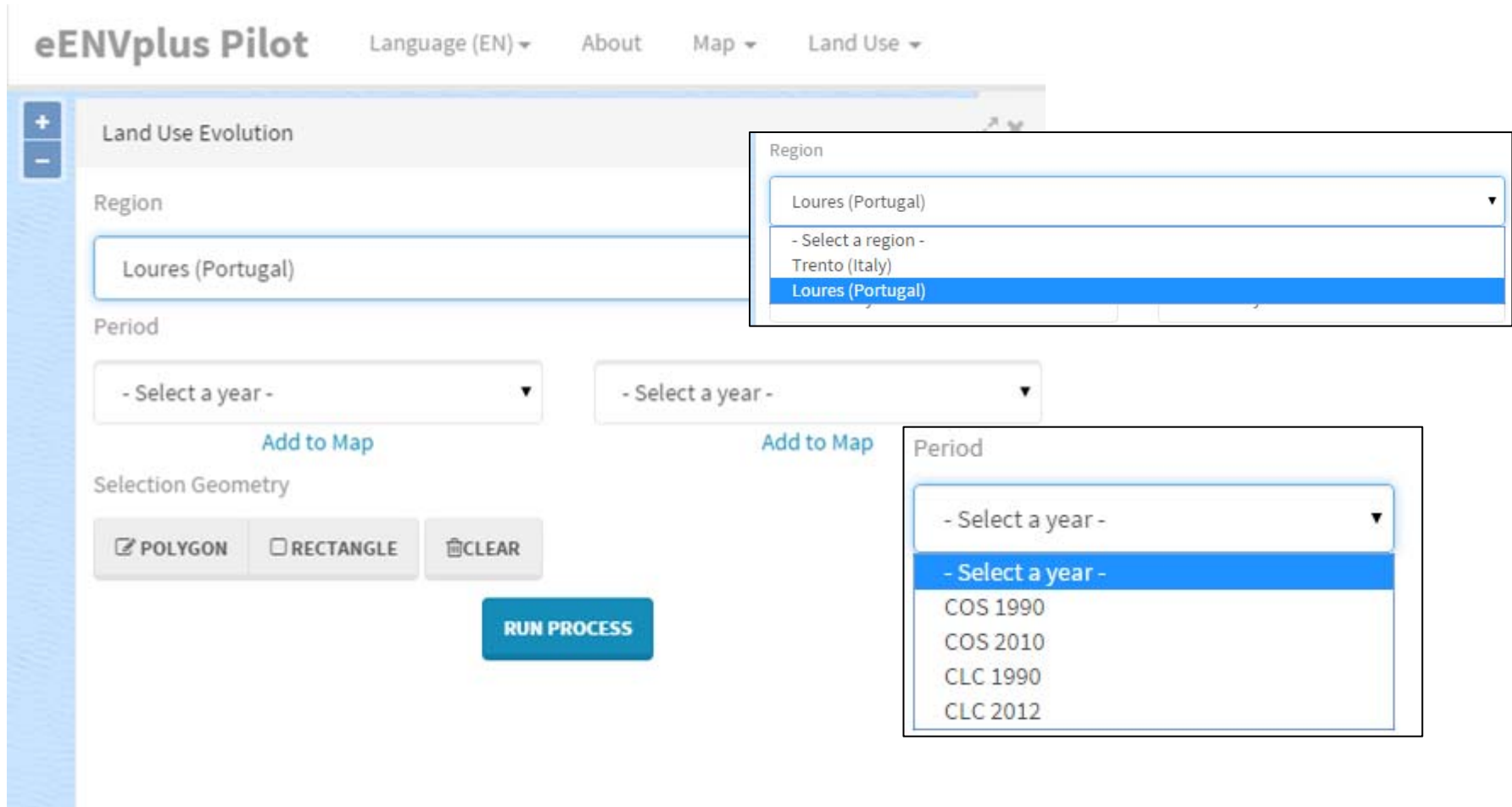
- Based on the WMS url the user specified, the application contacts the service, retrieves and displays its features/capabilities (GetCapabilities).
- The application can identify the existence of Inspire Extended WMS Capabilities, presenting the user with a button (Show Metadata Service) that provides the access to service metadata.
- The user can individually add each layer provided by the service map. Once the user add the layer to the map, can control the visibility, transparency and see the legend.
- It can also inquire and get information about the features drawn on the map (GetFeatureInfo).

Head tabs



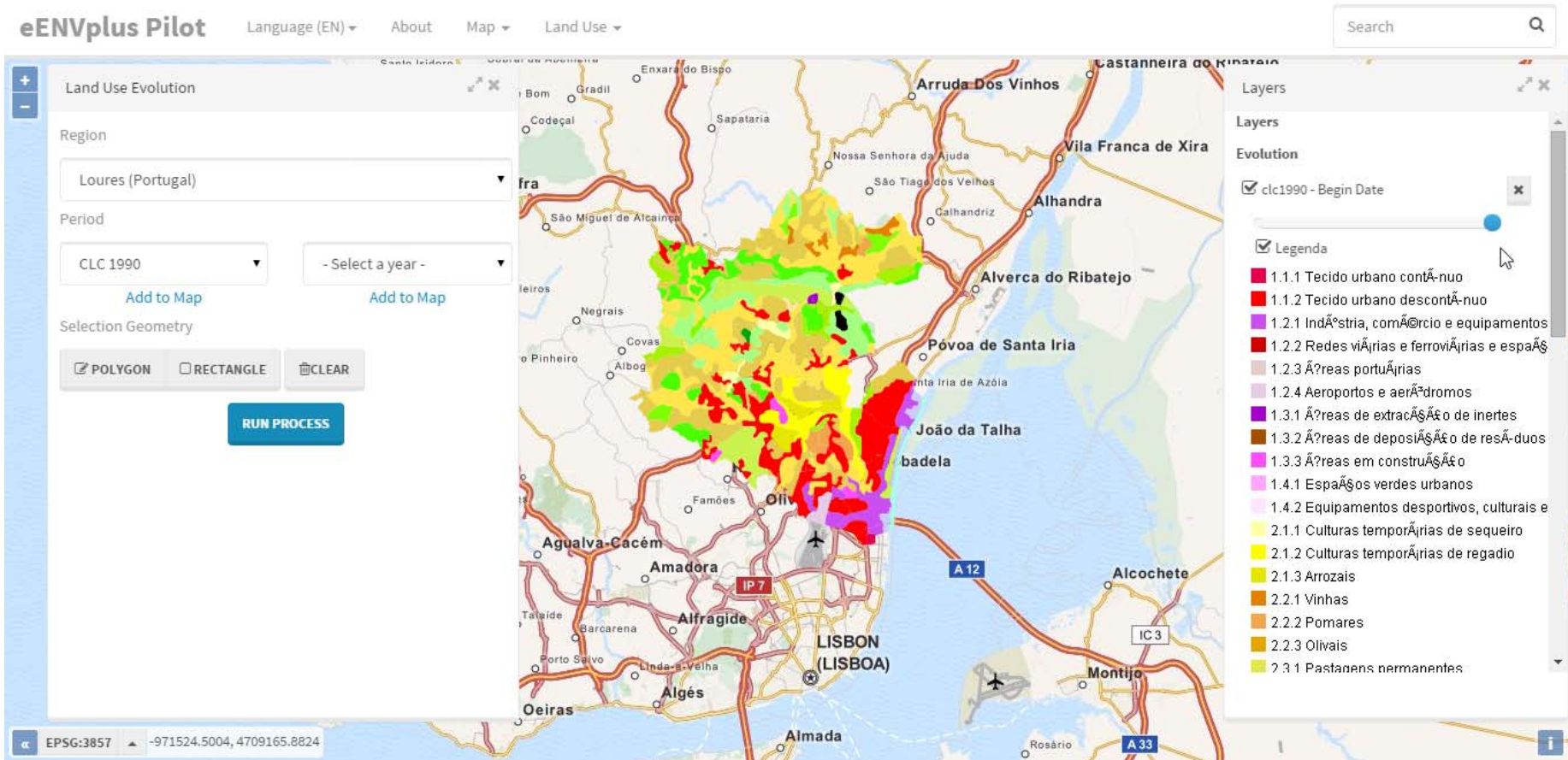
- The application implements two sets of features:
1. Analysis of the evolution of land use/land cover
 2. View of indicators to monitor urban dynamics

Land use | evolution

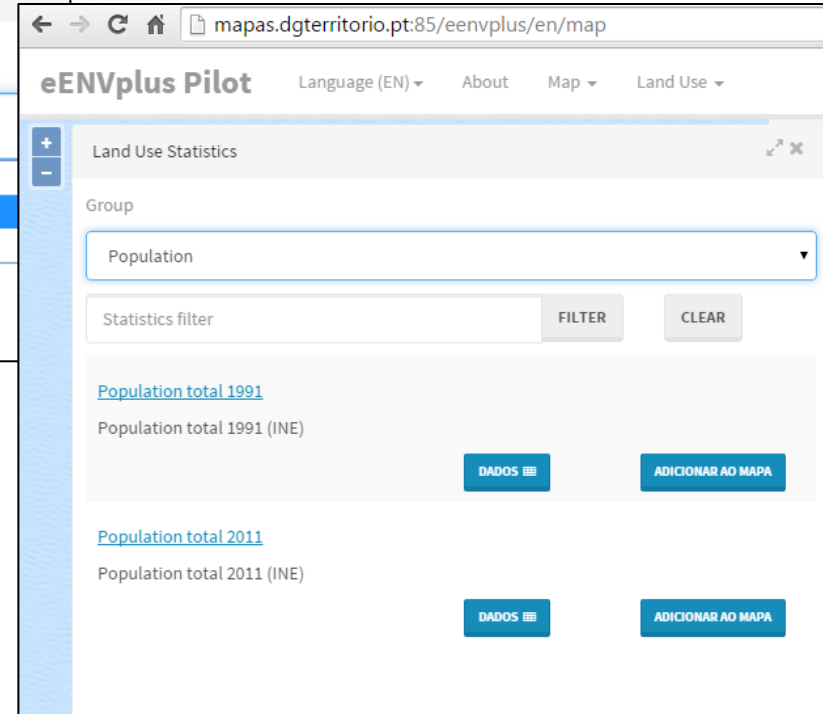
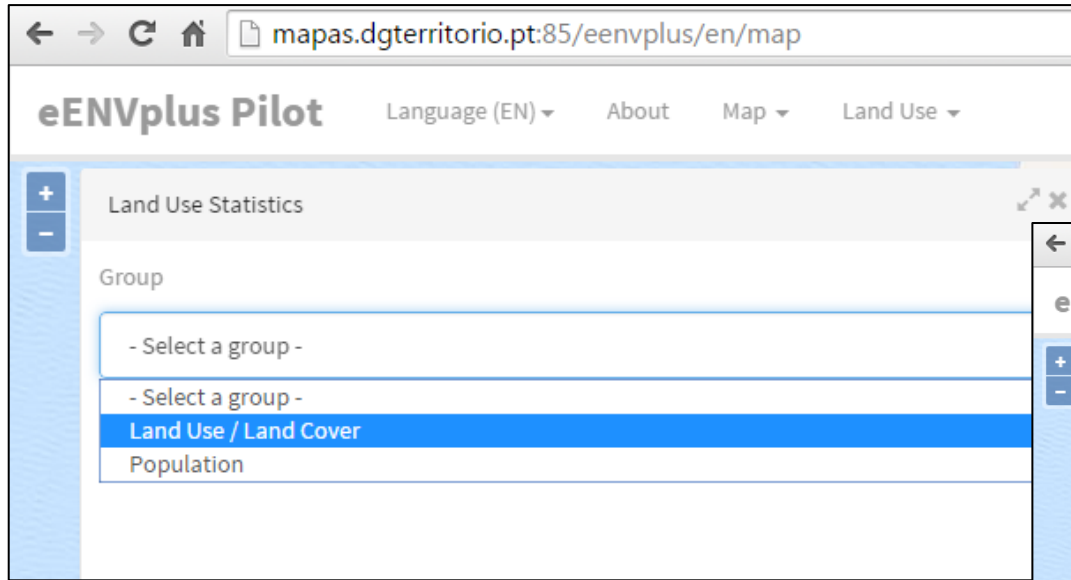


The screenshot shows the 'eENVplus Pilot' web application interface. The main navigation bar includes 'Language (EN)', 'About', 'Map', and 'Land Use'. The 'Land Use Evolution' section is active, showing a 'Region' dropdown menu with 'Loures (Portugal)' selected. Below this are two 'Period' dropdown menus, both currently set to '- Select a year -'. There are two 'Add to Map' buttons corresponding to the period selections. Under 'Selection Geometry', there are three buttons: 'POLYGON' (checked), 'RECTANGLE', and 'CLEAR'. A large blue 'RUN PROCESS' button is located at the bottom of the form. Two callout boxes are present: one for the 'Region' dropdown showing options 'Loures (Portugal)', '- Select a region - Trento (Italy)', and 'Loures (Portugal)' (highlighted); and another for the 'Period' dropdown showing options '- Select a year -', '- Select a year -' (highlighted), 'COS 1990', 'COS 2010', 'CLC 1990', and 'CLC 2012'.

Corine Land Cover Map 1990



Statistics tab | population group



The indicators are available through WMS and WFS (view and download services)

Statistics tab | Land use/land cover group

Land Use Statistics

[Artificial surfaces CLC 1990](#)
Artificial surfaces - Corine Land Cover 1990

[METADADOS](#) [DADOS](#) [ADICIONAR AO MAPA](#)

[Artificial surfaces CLC 2012](#)
Artificial surfaces - Corine Land Cover 2012

[DADOS](#) [ADICIONAR AO MAPA](#)

[Artificial surfaces per capita CLC 1990](#)
Artificial surfaces per capita - Corine Land Cover 1990

[DADOS](#) [ADICIONAR AO MAPA](#)

[Artificial surfaces per capita CLC 2012](#)
Artificial surfaces per capita - Corine Land Cover 2012

[DADOS](#) [ADICIONAR AO MAPA](#)

[Artificial surfaces COS 1990](#)
Artificial surfaces - COS 1990

[Artificial surfaces COS 1990](#)
Artificial surfaces - COS 1990

[DADOS](#) [ADICIONAR AO MAPA](#)

[Artificial surfaces COS 2010](#)
Artificial surfaces - COS 2010

[DADOS](#) [ADICIONAR AO MAPA](#)

[Artificial surfaces per capita COS 1990](#)
Artificial surfaces per capita - COS 1990

[DADOS](#) [ADICIONAR AO MAPA](#)

[Artificial surfaces per capita COS 2010](#)
Artificial surfaces per capita - COS 2010

[DADOS](#) [ADICIONAR AO MAPA](#)

Statistics tab | Land use/land cover group

clc **FILTER** CLEAR

[Artificial surfaces CLC 1990](#)
Artificial surfaces - Corine Land Cover 1990

METADADOS **DADOS** **ADICIONAR AO MAPA**

[Artificial surfaces CLC 2012](#)
Artificial surfaces - Corine Land Cover 2012

DADOS **ADICIONAR AO MAPA**

[Artificial surfaces per capita CLC 1990](#)
Artificial surfaces per capita - Corine Land Cover 1990

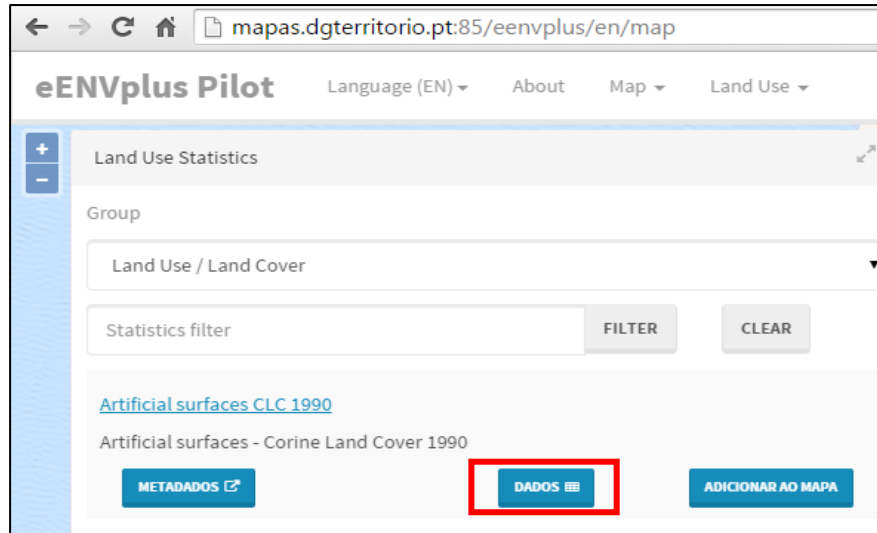
DADOS **ADICIONAR AO MAPA**

[Artificial surfaces per capita CLC 2012](#)
Artificial surfaces per capita - Corine Land Cover 2012

DADOS **ADICIONAR AO MAPA**

Apply a filter

Statistics tab | Land use/land cover group



The "Data" option returns the value of the selected indicator to each municipality

Freguesia	Artificial surfaces - Corine Land Cover 1990 (ha)
MOSCAVIDE	89.048639
PORTELA	98.581777
PRIOR VELHO	131.985783
SACAVÉM	370.40635
CAMARATE	429.617226
BOBADELA	185.675462
APELAÇÃO	48.161523
SANTO ANTÓNIO DOS CAVALEIROS	458.051028
FRIELAS	83.686894
UNHOS	132.885161
SÃO JOÃO DA TALHA	94.250761
SANTA IRIA DE AZOIA	96.085802
LOURES	550.346817
SANTO ANTÃO DO TOJAL	329.390856
SÃO JULIÃO DO TOJAL	134.098332
FANHÕES	86.876089
LOUSA	87.081735
BUCELAS	48.522914

Statistics tab | Land use/land cover group

↗ ✕

Land Use Statistics

[<< Back](#)

Artificial surfaces per capita COS 2010

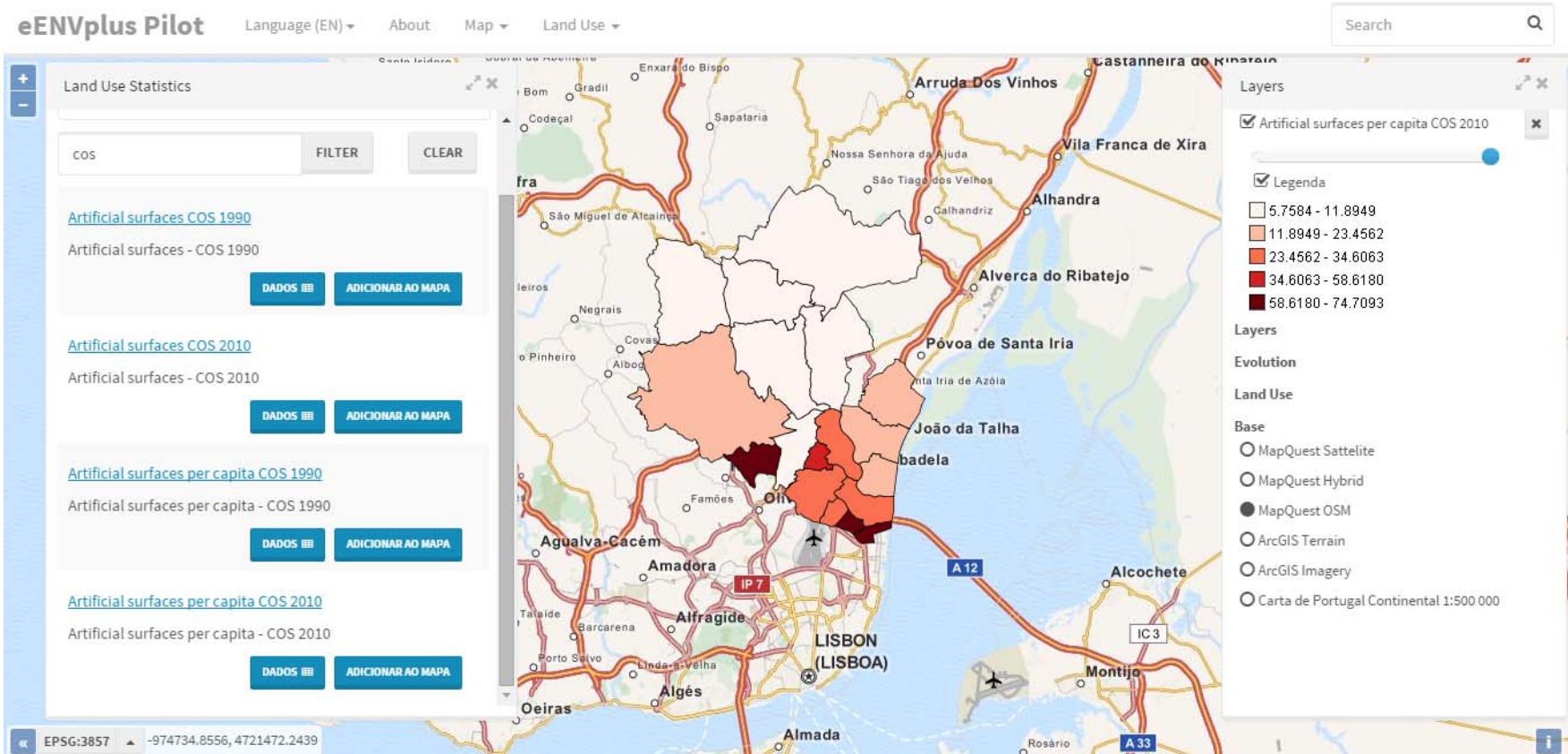
Download Shapefile

Download CSV

Freguesia	Artificial surface per capita 2010 (COS and INE)
MOSCAVIDE	71.799351
PORTELA	58.618019
PRIOR VELHO	70.041567

Download services

Artificial surfaces per capita (source: DGT and INE)



Next steps:

1. Metadata availability
2. Web processing availability
3. Building more dynamic territorial indicators to monitor and support land use planning activities.

Thank you!

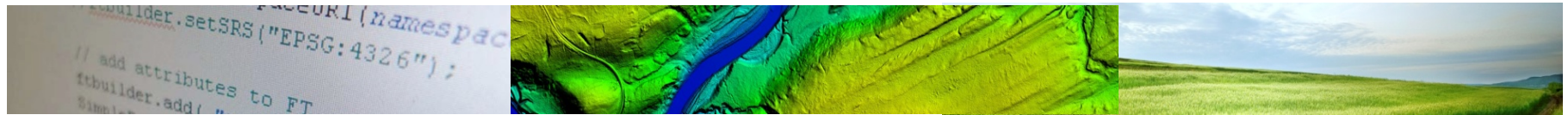
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